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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/000,284	11/15/2001	Dong Wu	56530US002	9016
32692	7590	11/26/2004		
3M INNOVATIVE PROPERTIES COMPANY PO BOX 33427 ST. PAUL, MN 55133-3427			EXAMINER SHOSHO, CALLIE E	
			ART UNIT 1714	PAPER NUMBER

DATE MAILED: 11/26/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/000,284

Applicant(s)

WU ET AL.

Examiner

Callie E. Shosho

Art Unit

1714

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2004.
2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-42 and 44-52 is/are pending in the application.
4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-42 and 44-52 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. The new grounds of rejection as set forth below are necessitated by applicants' amendment and thus, the following action is final.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 42, 44-48, and 52 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claim 42 has been amended to recite, "dispersed shear deformable particles comprising a self-crosslinking polymer". It is the examiner's position that this phrase fails to satisfy the written description requirement under the cited statute since there does not appear to be a written description requirement of the above phrase in the application as originally filed, *In re Wright*, 866 F.2d 422, 9 USPQ2d 1649 (Fed. Cir. 1989) and MPEP 2163. Applicant has not pointed to any portion of the specification, and examiner has not found any support for this phraseology in the specification as originally filed.

While there is support in the present specification to recite dispersed shear deformable polymer particles wherein the polymer is a self-crosslinking polymer there is no support in the

present specification for the recitation of dispersed shear deformable particles *comprising* self-crosslinking polymer. Claim 42 as presently amended encompasses shear deformable particles comprising self-crosslinking polymer as well as other polymers including, for instance, those not are not self-crosslinking. That is, the use of the phrase “comprising” opens the scope of the shear deformable particles to comprise all types of polymers not just self-crosslinking for which there is no support in the specification as originally filed. As set forth in the present specification, the dispersed shear deformable particles are limited to self-crosslinking polymers only.

Claim Rejections - 35 USC § 103

4. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.
5. Claims 1-2, 4, 6-9, 15-27, 34-42, 44-49, and 51-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kubota et al. (U.S. 5,846,306) in view of Krepski et al. (U.S. 5,929,160).

The rejection is adequately set forth in paragraph 8 of the office action mailed 8/21/03 and is incorporated here by reference.

6. Claims 1-5, 9-16, 23-25, 27, 31, 34-39, 42, 44-50, and 52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Zhu (U.S. 5,889,083) in view of Krepski et al. (U.S. 5,929,160).

The rejection is adequately set forth in paragraph 9 of the office action mailed 8/21/03 and is incorporated here by reference.

7. Claims 1-2, 4-9, 15-16, 23-25, 27-30, 32-37, 40, 42, 44-49, and 51-52 are rejected under 35 U.S.C. 103(a) as being unpatentable over Erdtmann et al. (U.S. 6,533,408) in view of Krepski et al. '160 (U.S. 5,929,160).

The rejection is adequately set forth in paragraph 10 of the office action mailed 8/21/03 and is incorporated here by reference.

Response to Arguments

8. Applicants' arguments filed 9/9/04 have been fully considered but they are not persuasive.

Specifically, applicants argue that there is no motivation to combine Kubota et al., Zhu, or Erdtmann et al. with Krepski et al. '160 given that Krepski et al. '160 fails to teach or suggest the use of silyl-terminated sulfopoly(ester-urethane) in ink or ink jet ink compositions but rather is concerned with the use of silyl-terminated sulfopoly(ester-urethane) in pavement marking compositions.

However, while it is agreed that Krepski et al. '160 is primarily concerned with pavement marking compositions, that is just one specific application of the coating composition disclosed by Krepski et al. '160 which also teach that the disclosed coating composition is suitable for use on several types of substrate including paper (col.1, lines 10-12 and 15-18). Thus, while Krepski et al. '160 do not explicitly disclose the use of the coating composition as ink jet ink, it is the

examiner's position that Krepski et al. is a pertinent reference against the present claims given that Krepski et al. '160 disclose the use of silyl-terminated sulfopoly(ester-urethane) in coating for paper which is very similar to ink which is used to impart images, i.e. to coat, paper. Further, it is significant to note that Krepski et al. '160 disclose using silyl-terminated sulfopoly(ester-urethane) in aqueous composition comprising pigment, dispersant, defoamer, wetting agent, etc. (col.15, line 54-col.16, line 17) which is very similar, if not identical to ingredients found in ink compositions.

Applicants argue that although Krepski et al. '160 discloses such aqueous compositions, these compositions such as pavement marking compositions, are not ink jettable due to the presence of the above mentioned materials including pigment such as titanium dioxide and filler such as calcium carbonate. However, applicants have offered no evidence to support their position. Further, even if the pavement marking composition is not jettable, this is only one type of coating composition disclosed by Krepski et al. '160. Additionally, ink jet inks are already taught by Kubota et al., Zhu, or Erdtmann et al. Krepski et al.' 160 is not used for its teaching of pavement marking compositions or jettable compositions but rather for its disclosure that silyl-terminated sulfopoly(ester-urethane), which is taught by Krepski et al. '160 to impart toughness, weatherability, abrasion resistance, and enhanced adhesion to coatings which are suitable for use on substrate such as paper which is especially pertinent to the invention at hand, namely ink jet inks, which are a type of coating applied to paper wherein it is important that the ink adhere to the substrate and not smudge, break, fade, etc. over time.

Applicants also argue that there is no motivation to combine Krepski et al. '160 with Kubota et al., Zhu, or Erdtmann et al. given that each of Kubota et al., Zhu, and Erdtmann et al.

already disclose the use of polymer that imparts the same properties disclosed by using the silyl-terminated sulfopoly(ester-urethane) in Krepski et al. '160.

It is agreed that each of Kubota et al., Zhu, and Erdtmann et al. disclose polymer such as polyurethane but do not disclose silyl-terminated sulfopoly(ester-urethane) polymer. This is why each reference is used in combination with Krepski et al. '160 which discloses specific type of polymer, i.e. silyl-terminated sulfopoly(ester-urethane), as well as motivation for using such polymer. Each reference discloses the use of generic type of polymer, i.e. polyurethane, with no disclosure of specific types of these polymers utilized. Krepski et al. '160 is used to teach specific types of polymers already generically disclosed by either Kubota et al. Zhu, or Erdtmann et al.

While Kubota et al. disclose using thermoplastic polymer to provide improved water resistance and rubbing resistance, Zhu discloses using polymer as binder to provide abrasion resistance and adhesion, and Erdtmann et al. disclose using polymer to provide improved abrasion resistance, the motivation for using silyl-terminated sulfopoly(ester-urethane) polymer as disclosed by Krepski et al. '160 is to impart toughness, weatherability, abrasion resistance, and enhanced adhesion. That is, not only does the silyl-terminated sulfopoly(ester-urethane) polymer of Krepski et al. '160 impart the advantages exhibited by the polymers disclosed by Kubota et al., Zhu, or Erdtmann et al., but additional advantages, and thus, the examiner's position remains that there is motivation to use the silyl-terminated sulfopoly(ester-urethane) polymer as the polymer in the ink of Kubota et al., Zhu, or Erdtmann et al.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

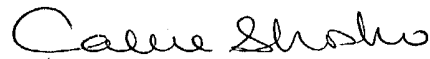
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Callie E. Shosho whose telephone number is 571-272-1123. The examiner can normally be reached on Monday-Friday (6:30-4:00) Alternate Fridays Off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vasu Jagannathan can be reached on 571-272-1119. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Callie E. Shosho
Primary Examiner
Art Unit 1714

CS
11/23/04